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Examining the impact of teacher motivational style and competition result on students' subjective vitality and happiness in physical education

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Abstract

This study examines the impact of teacher motivational styles and win versus lose status on Iranian students' subjective vitality and happiness in physical education. 105 adolescences participated in the study. A race and physical activity text was communicated in a controlling versus autonomy-supportive way, and then subjects participated in the race. The results showed that the autonomy-supportive versus controlling motivational style promoted vitality. Moreover, winner participants, regardless of the teacher motivational style, showed greater happiness compared with loser participants. It appears that controlling and autonomy-supportive contexts are equally effective in promoting happiness, and teacher motivational style is a better predictor of subjective vitality than lose/win status.

Keywords: Physical Education; Subjective Vitality; happiness; Motivational Style; competition; Self-Determination Theory;

1. Introduction

Ryan and Fredric (1997) characterized subjective vitality as an entity full of energy, enthusiasm and liveliness, without fatigue, weariness or exhaustion, and proved that when the subjective vitality is at a lower level, irritability and fatigue will result and likely reduce the potential for doing activities. When the subjective vitality is at a higher level, mood is in a proper status and sufficient energy is created so all duties and activities are performed well (Ryan & Deci, 2000). Subjective vitality indicates an entity full of positive mental energy and a vital and cheerful person is an alert and fresh person, full of life and energy. Ryan and Fredrick (1997) defined subjective vitality as a mental experience full of life and energy.

In the present study we examine motivational factors expected to impact directly on subjective energy. Specifically, we argue that success at behaviours that are autonomously regulated should maintain or enhance subjective energy or vitality, relative to success at the same actions when they are directed or controlled by forces outside the self. Moreover, it seems teacher motivational style (autonomy-supportive versus controlling) is a better predictor of subjective vitality than win and lose status or success and failure. That is, we predict that when people are intrinsically motivated or autonomously extrinsically motivated, they will not experience their efforts as draining and may even feel their energy enhanced. Moreover, it seems these facilitative effects of autonomy on the positive state of vitality are quite specific. Thus, although success at *either* autonomous or controlled actions may leave people feeling a sense of happiness, contentment, or being pleased with

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themselves, success at autonomously regulated tasks will engender greater energy or vigour than success when their task behaviour is controlled. Happiness is pleasure from the attainment of a desired outcome regardless of the motivational state that yielded the outcome. Although both happiness and vitality are positive or ‘‘pleasant’’ states; only the latter is necessarily characterized by high energy or activation. The current research focuses on this differential effect of success at autonomous versus controlled tasks on vitality, and the absence of such a differential effect on happiness.

Subjective vitality differs from activation or energy per se because many forms of activation such as anger, anxiety, or arousal are either unrelated to subjective vitality, or negatively related to it (Ryan & Frederick, 1997). Instead, vitality represents energy that one can harness or regulate for purposive actions.

Vitality is a complex and dynamic outcome, and one that is influenced by both somatic and psychological factors. Ryan & Fredric (1997) found that not only subjective vitality has relation with psychological factors such as autonomy and relatedness, but also with physical health. On the somatic side, they showed that vitality was lower in those reporting such complaints as pain, common physical symptoms, ineffective body functioning, and symptoms of somatisation. On the psychological side, they argued that subjective vitality should be maintained or enhanced under conditions where the basic psychological needs for autonomy, competence, and relatedness are satisfied. The role of autonomy may be particularly important in the dynamics of energy. Thus, psychological and physical events both impact vitality and influence changes in energy within persons over time and between persons overall (Ryan and Deci, 2000).

When in a vital state, people are more active and productive, cope better with stress and challenge, and report greater mental health (e.g., Ryan & Frederick, 1997). In addition, growing evidence suggests that it is specifically the activated forms of positive affect associated with vitality that render people more resilient to physical and viral stressors and less vulnerable to illness (e.g., Benyamini, Idler, Leventhal, & Leventhal, 2000; Cohen, Alper, Doyle, Treanor, & Turner, 2006; Polk, Cohen, Doyle, Skoner, & Kirschbaum, 2005). These consequences make vitality an important focus of research.

Nix, Ryan, Manly, and Deci (1999) define happiness herein more specifically as high pleasantness per se—as a state of contentment or satisfaction—that is theorized to follow from the attainment of a desired outcome regardless of the motivational state that yielded the outcome. Although both happiness and vitality are positive or ‘‘pleasant’’ states; only the later is necessarily characterized by high energy or activation. In this sense both happiness and vitality belong together under the umbrella of positive affect, but are distinguished mainly by the activation issue, with vitality being an activated positivity and happiness not necessarily carrying such an implication. Nix, Ryan, Manly, and Deci (1999) argue that a distinction between vitality and happiness is important because it is necessary to clarify the theoretically and practically important relations between motivational processes and vitalization. It seems the influence of different motivational states on vitality and happiness represents an appropriate comparative affect because it is positive, but yet not expected to be strongly influenced by one’s motivational orientation.

A great deal research, (such as; Nowlis and Green, 1964; McNair et al., 1971; Purcell, 1982; Shaver, Schwartz, Kirson, and O’Connor, 1987) has used factor analysis and shown that the construct of subjective vitality is different from happiness. These investigators have identified a distinction between vitality and happiness and also reveal that these two positive states appear to differing degrees under different circumstances and are present for some people more often than for others. They did not directly manipulate such circumstances. Nix, Ryan, Manly, and Deci (1999) examined the differential impact of autonomous versus non-autonomous regulations on changes in vitality and happiness. They reported more positive change in vitality, but similar happiness, in the autonomy-supportive than the controlling condition. We wanted to manipulate some of the different contextual factors in the present study.

Self-determination theory is useful in understanding the motivational, cognitive and affective processes of adolescents in PE (SDT; Deci & Ryan, 1985, 2000). This theoretical approach has been successfully applied in the context of education (e.g., Ryan & Deci, 2006) and sport (e.g., Hollembeak & Amorose, 2005; Thogersen-Ntoumani & Ntoumanis, 2006).

Self-Determination Theory (Deci & Ryan, 1985; Ryan & Deci, 2000) distinguishes three kinds of motivation: intrinsic motivation, extrinsic motivation, and amotivation, situated along a continuum ranging from high to low self-determination, and which vary according to the degree of behavioral regulation. Thus, motivation refers to the absence of the intention to act and this may be because the person does not feel competent, cannot see the contingencies between the behaviors performed and the expected results, or does not value the activity. Intrinsic motivation represents the highest degree of self-determined motivation and occurs in the situations in which individuals feel free to commit to activities they find interesting and/or fun and that offer them the chance to learn. Lastly, extrinsic motivation, in contrast, takes place when people carry out a task because they value the results associated with it (e.g., public acknowledgement, extrinsic rewards) more than the activity itself. Competition is a special type of extrinsic activity, for it often necessitates being competent and effective, and can

measure one's competence by competing with another. Deci and colleagues (1981) suggest when one focuses on the goal of winning rather than on the process of doing the activity well, the behaviour is extrinsically motivated. Of course, winning can improve happiness and enhance motivation, but the motivation is extrinsic rather than intrinsic so will tend to frustrate basic psychological needs and not improve vitality.

SDT proposes that human beings have innate psychological needs for autonomy, competence and relatedness. Intrapersonal and interpersonal contexts that support the satisfaction of these needs will promote a person's enjoyment of activities and the autonomous self-regulation of behaviours (Ryan & Deci, 2000). According to Gagne (2003), people are more likely to be intrinsically motivated, doing an activity simply for the enjoyment they derive from it, when they can freely choose to pursue an activity (autonomy/choice), when they master the activity (competence) and when they feel connected and supported by significant people, such as a manager, a parent, a teacher or teammates (relatedness).

Autonomous behaviours are those that are phenomenally experienced as flowing from and expressing one's self, whereas controlled actions are experienced as demands to think, feel, or behave in specified ways and could thus feel like a drain on personal energy (Vansteenkiste, Soenens, & Lens, 2007).

According to this theory, a teacher's motivating style toward students can be conceptualized along a continuum that ranges from highly controlling to highly autonomy-supportive (Deci, Schwartz, Sheinman, & Ryan, 1981). In general, autonomy-supportive teachers facilitate, whereas controlling teachers interfere with the congruence between students' self-determined inner motives and their classroom activity. Autonomy-supportive teachers facilitate this congruence by identifying and nurturing students' needs, interests, and preferences and by creating classroom opportunities for students to have these internal motives guide their learning and activity. In contrast, relatively controlling teachers interfere with students' inner motives because they tend to make salient a teacher-constructed instructional agenda that defines what students should think, feel, and do. To shape students' adherence toward that agenda, controlling teachers offer extrinsic incentives and pressuring language that essentially bypass students' inner motives.

The motivating style of one person influences the motivation, emotion, learning, and performance of others (Reeve, 2002). In school settings, for instance, students with autonomy-supportive teachers, compared to students with relatively controlling teachers, show greater mastery motivation, perceived competence, and intrinsic motivation, more positive emotionality and greater conceptual understanding, higher academic performance, and greater persistence in school (vs. dropping out; Vallerand, Fortier, & Guay, 1997). Autonomy-supportive teachers are able to facilitate these positive educational and developmental outcomes in their students because they find ways to involve and satisfy their students' psychological needs (for autonomy, competence, and relatedness) during instruction (Hardre & Reeve, 2003; Reeve, 2002).

Given that vitality is defined as a feeling of possessing energy available to one's self, Ryan and Frederick (1997) reasoned that it should be higher when successfully completing autonomously motivated actions than when successfully completing controlled ones. The linkage between self-determined versus controlled motivations and subjective vitality has been suggested by other studies as well. Sheldon and T. Kasser (1995) found that personal strivings that were less self-determined were associated with lower subjective vitality. Sheldon, Ryan, and Reis (1996) found support for the association of self-determination and vitality in a 2-weeklong diary study of college students. These theoretical views and empirical findings suggest that behaviours that are autonomous or self-determined may yield better enhanced vitality relative to non-self-determined activities (e.g., being controlled), even when one controls for competence or goal success. Whereas happiness is pleasure from the attainment of a desired outcome regardless of the motivational state that yielded the outcome, it seems a teacher's motivating style does not impact on it. In summary, our aim in this article is to examine the impact of autonomy-supportive versus controlling communication styles as well as race result status on students' subjective vitality in physical education.

2. Method

2.1. Participants

This study was conducted using a two-factorial design (2 × 2). The initial participants comprised 140 seventh grade male Iranian students. Students who did not complete the entire questionnaire, however, were excluded from the analyses along with students who are rating of Perceived Locus of Causality scale was not a match with their experimental group. Hence, all analyses were based on a final sample of 105 students (age: M = 11.42, SD = 1.44).

2.2. Measures

Firstly, all measures were translated into Persian and Cronbach's alpha coefficients were calculated to assess their internal reliability.

Subjective Vitality Scale. Participants' vitality was assessed with the Subjective Vitality Scale, State Level Version (SVS; Bostic, Rubio, & Hood, 2000), a 6-item survey assessing feelings of aliveness and energy on 7-point Likert-type scales. Sample items include "I feel energized right now" and "At this moment, I feel alive and vital". The SVS has been extensively validated by Ryan and Frederick (1997), Nix et al. (1999), and Vansteenkiste et al. (2005). In the present study it was measured after the race.

Happiness. Participants rated four items tapping happiness (pleasant, comfortable, satisfied, and content) on a 9-point scale. The α for this ad hoc scale was .82.

Perceived Locus of Causality scale. This was assessed with five items (α = .80) reflecting subjects' perception of freedom and choice (e.g., ''I believe I had some choice about doing this activity''). These items were taken from the Intrinsic Motivation Inventory (IMI; McAuley, Duncan, & Tammen, 1989; Ryan, 1982; Ryan, Mims, & Koestner, 1983) for use herein as a manipulation check.

2.3. Procedure

The experiment took place during the participants' regular classes, which increases its ecological validity, in which they were told to get ready for track (580 m), and participants who could attain a 3-minute record could ascend to the next race. This race took place after one week. All subjects were provided with a set of written instructions (about 8 lines). A research assistant who was unfamiliar with the theoretical purpose of the study randomly assigned the subjects to one of the two motivational styles (cell sizes vary between 22 and 31) by giving them a particular set of instructions. The instruction sets were of the same length so that anyone looking at them casually would not suspect there were differences among them. The participants read their assigned set of instructions half an hour before the race. Motivational style was manipulated in the instructions. The controlling context was operationalised by using explicitly controlling language such as: ''you should follow the guidelines of the teacher'', ''you have to'', ''you are expected to'', and ''a lot of kids follow the guidelines of the teacher to feel good about themselves and to avoid feeling guilty for not doing so.'' These instructions were intended to enhance the pressure to race. In the autonomy- supportive condition, wording such as ''we invite you to'', ''you can decide for yourself to follow the guidelines of the teacher'' and ''you might want to do your best to race'' were used instead. Then, to examine whether the autonomy support versus control manipulations produced the intended effect, we used the Perceived Locus of Causality scale (PLOC; Ryan & Connell, 1989). Ultimately, the participants' vitality was assessed with a Subjective Vitality Scale, State Level Version (SVS; Bostic, Rubio, & Hood, 2000) after the race.

3. Finding

Table 1 presents the Means and standard deviations for the two dependent variables, subjective vitality and happiness, in the four experimental conditions.

Table 1. The vitality and happiness means and standard deviations of the four experimental conditions

	winners		**losers**	
	M	S	M	S
autonomy supportive	*(n=26)*		*(n=22)*	
subjective vitality	5.76	1.05	3.81	1.02
happiness	7.70	1.01	4.45	0.98
Controlled	*(n=28)*		*(n=31)*	
subjective vitality	4.21	0.91	2.45	0.99
happiness	6.91	0.95	3.12	0.91

Subjective vitality and happiness were investigated using the two-way multivariate analysis of variance (MANOVA) technique. MANOVA was conducted to determine the effect of group differences on the dependent variables (subjective vitality and happiness). Table 2 shows the results of the analyses of variance in terms of single variables differences and the combined effects. Significant differences were found for the four types of differences in dependent measures.

Table 2. The *F* values for Pillai's procedure

	value	F	hypoth. df	error df	Sig of F
Motivational style	0.630	10.50*	4	157.00	0.000
Competition result	0.072	2.96*	4	157.00	0.000
Interaction effect	0.051	0.71	4	157.00	0.801

*$P<.025$

The *F* values for Pillai's procedure were statistically significant about motivational style, $F(4, 266) = 10.50$, $p < .025$ and competition result, $F(4, 266) = 2.96$, $p < .025$ but not statistically significant for interaction effects $F(4, 266) = 0.71$, $p < .025$. Subsequently, two-way analyses of variance (ANOVA) were performed for each of the dependent variables as follow-up tests to the MANOVA, as reported in Table 3.

Table 3. Univariate F-test with (1, 100) D.F.

	Dependent variable	SS	F	Sig of F
Motivational style	Subjective vitality	75.870	5.842*	0.000
	Happiness	124.236	36.512	0.097
Competition result	Subjective vitality	4.149	3.361	0.107
	Happiness	6.854	24.165*	0.000

*$P<.025$

Results of Table 3 show that the motivational style impacts on changes in subjective vitality, relative to changes in happiness, $F(1, 100) = 5.842$, $p < .025$. Competition result has an impact on happiness, relative to vitality, $F(1, 100) = 24.165$, $p < .025$. These results indicated that the effects of motivation were indeed different on vitality and happiness, thus supporting our principle hypothesis. Subsequently, because The F values were statistically significant, follow-up contrast analyses with the Scheffe test were performed for each of the dependent variables, as reported in Table 4 and 5.

Table 4. Follow-up contrast analyses with Scheffe test for subjective vitality

	M_1: 5.76	M_2: 3.81	M_3: 4.21	M_4: 2.45
M_1: 5.76	-	4.86**	3.46*	5.22**
M_2: 3.81	-	-	0.86	3.44*
M_3: 4.21	-	-	-	4.76**
M_4: 2.45	-	-	-	-

*$P<.05$
**$P<.01$

Table 5. Follow-up contrast analyses with Scheffe test for happiness

	M_1: 7.70	M_2: 4.45	M_3: 6.91	M_4: 3.12
M_1: 7.70	-	4.31**	1.26	5.18**
M_2: 4.45	-	-	3.86**	1.44
M_3: 6.91	-	-	-	4.53**
M_4: 3.12	-	-	-	-

*$P<.05$
**$P<.01$

Results of Table 4 and Table 5 show winner participants in the autonomy-supportive condition experienced more subjective vitality compared with participants in other conditions. The loser participants in a controlling condition experienced the least subjective vitality compared with other conditions. Moreover, there is no significant difference between subjective vitality of the loser participants in an autonomy-supportive condition than with winner participants in a controlling group. On other hand, winner participants, regardless of the teacher motivational style, showed more happiness compared with loser participants. This finding suggests that controlling and autonomy-supportive contexts have the same impact on happiness.

4. Conclusion

SDT posits that the teacher motivational style (i.e., autonomy-supportive vs. controlling) could explain variance in children's motivation, well-being, vitality and performance. The present research examined the impact of teacher motivational style and competition result status on students' subjective vitality and happiness in physical education.

The primary hypothesis concerned the effects of condition (autonomy-supportive versus controlling) on changes in subjective vitality, relative to changes in happiness. Specifically it was predicted that vitality would be differentially influenced by type of motivation, whereas happiness would not. Results on vitality indicated that those with more autonomous reasons felt more refreshed and experienced greater subjective vitality, whereas those (even winners) with more controlled reasons did not. Self-regulated activity can help enhance subjective vitality relative to engaging in more controlled activity, a finding important to those concerned with fostering feelings of energy and well-being. These findings are consistent with Hollembeak, J., & Amorose, A. J. (2005) and Vansteenkiste, M., Soenens, B., & Lens, W. (2007). The comparison of the loser participants in an autonomy-supportive condition with winner and loser participants in the controlling communication group provided interesting insight into the precise impact of an autonomy-supportive versus controlling communication style as well as race results status. Specifically, the provision of facilitating condtions (such as an autonomy-supportive communication style) enhanced subjective vitality as opposed to debilitating factors which decreased early adolescents' subjective vitality.

Results indicated that winner participants, regardless of their motivational quality, showed greater happiness compared to loser participants. These findings are consistent with those of Nix, G. A., Ryan, R. M., Manly, J. B., & Deci, E. L. (1999) and Sheldon, K. M., & Kasser, T. (1995). It seems that happiness is related to competition results regardless of the motivational state that yielded the outcome. On the basis of SDT (Deci & Ryan, 1985; Ryan & Deci, 2000), competition often necessitates being competent and effective, and can measure an individual's competence. Competition is a special type of extrinsic activity and winning can improve happiness and enhance motivation, but the motivation is extrinsic rather than intrinsic, and it will tend to frustrate basic psychological needs and not improve vitality

It seems that how children start to regulate their activity participation is a better predictor of their subjective vitality than their lose/win status. An autonomous, supportive condition would increase subjective vitality by promoting an internal perceived locus of causality for engaging in a physical activity.

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